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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,161	12/05/2003	Bruce H. Storm JR.	990176UIP1D1 (1391-26101)	8565
30652	7590	09/21/2004	EXAMINER	
CONLEY ROSE, P.C. 5700 GRANITE PARKWAY, SUITE 330 PLANO, TX 75024			MILLER, ROSE MARY	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/729,161

Applicant(s)

STORM ET AL.

Examiner

Rose M Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 7-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4 and 9-14 is/are allowed.
- 6) ☒ Claim(s) 7 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/8/04 & 3/17/04.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Oath/Declaration*

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not identify the mailing address of each inventor. A mailing address is an address at which an inventor customarily receives his or her mail and may be either a home or business address. The mailing address should include the ZIP Code designation. The mailing address may be provided in an application data sheet or a supplemental oath or declaration. See 37 CFR 1.63(c) and 37 CFR 1.76.

The above problem has arisen because Applicant has not filed an Application Data Sheet as was done in the Parent Application 10/055,202. The Declaration copied from the Parent is only to be used when an Application Data Sheet is provided to the office. As the Application Data Sheet has not been provided, the information contained on the oath is insufficient and correction is necessary.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated by **Leopold et al. (US 4,838,084)**.

**Leopold et al.** discloses an instrument comprising no more than one tube (14) that receives a sample fluid having a density; a rigid pressure housing (12) enclosing said tube (14) and forming an annular area between said tube (14) and said pressure housing (12) (see Figure 1); a vibration source (coil 17 with magnet 19) attached to said tube (14) (see Figure 1); no more than one vibration detector (magnet 18 with coil 16)

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attached to said tube (14) (see Figure 1); and a measurement module (34, 38, 46) electrically coupled to said vibration source (17, 19) and said vibration detector (16, 18), wherein the measurement module is configured to determine a density of the sample fluid using a resonant frequency of the tube (14) (see abstract, column 2 lines 45-53).

***Allowable Subject Matter***

4. Claims 1-4 and 9-14 are allowed.
5. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, Applicant should be aware that should claim 8 be placed in an independent format, it would be objected to under 37 CFR 1.75 as being a substantial duplicate of claim 1. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).
6. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach and/or suggest an instrument for determining the density of a sample which includes, in combination with the other elements recited, a vibration sensor having a first magnet mounted to the sample tube, a second magnet mounted to the first magnet wherein the magnetic field of the second magnet opposes the magnetic field of the first magnet, and first and second coil windings mounted to the pressure housing surrounding the sample tube, the first and second coil windings being adjacent to one other.

While it is known in the art to utilize a single vibration detector for determining the resonance frequency of a sample tube in a density meter instrument, the specific configuration of the magnets with the coils is not known or taught by the prior art. Furthermore, it is more common to utilize multiple vibration detectors such that the

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vibration on the sample tube in multiple dimensions or at different locations can be determined and from those measurements a determination of density is made.

### **Conclusion**

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Agar (US 4,063,448)** discloses a density meter coil assembly.

**Dahlin, Erik B. (US 4,823,614)** discloses a Coriolis mass flowmeter.

**Lew, Hyok S. (US 5,005,400)** discloses a dual frequency density meter.

**Gomi et al. (US 5,796,012)** discloses an error correcting Coriolis flowmeter.

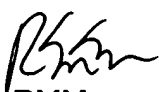
**Schott et al. (US 5,827,979)** discloses a signal processing apparatuses and methods for attenuating shifts in zero intercept attributable to a changing boundary condition in a Coriolis mass flowmeter.

**Pelletier et al. (US 6,378,364 B1)** discloses a downhole densitometer.

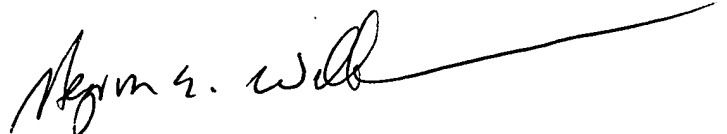
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rose M Miller whose telephone number is 571-272-2199. The examiner can normally be reached on Monday - Thursday, 7:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



RMM  
17 September 2004



HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
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